

WHAT IS CLAIMED IS

1. An optical disc apparatus comprising a motor for rotating a turn table on which an optical disc is mounted, an optical pickup for irradiating a light beam to the optical disc and receiving reflected light from the optical disc for reading and/or writing data with respect to the optical disc, and a motor controller for controlling the rotation of the motor, wherein

the motor controller executes the following processes:

obtaining a first widest pattern signal corresponding to a pulse width of a signal having the widest pattern among RF signals outputted from the optical pickup, when rotation speed of the optical disc reaches to a predetermined speed by driving the motor;

memorizing the first widest pattern signal in a memory;

supplying a braking voltage to the motor in a predetermined period;

further obtaining a second widest pattern signal corresponding to a pulse width of a signal having the widest pattern among RF signals outputted from the optical pickup after supplying the braking voltage to the motor; and

judging the size of the optical disc mounted on the turn table with reference to inverse numbers of the first widest pattern signal and the second widest pattern signal.

2. The optical disc apparatus in accordance with claim 1, wherein

the motor controller calculates rotation speeds of the optical

disc before and after starting the braking of the optical disc with using the first widest pattern signal and the second widest pattern signal, calculates a distance between the rotation speeds, and judges the size of the optical disc mounted on the turn table corresponding to the distance.

3. The optical disc apparatus in accordance with claim 1, wherein

the motor controller obtains the second widest pattern signal before focusing servo control of the optical pickup becomes disfunctional.

4. The optical disc apparatus in accordance with claim 1, wherein

the motor controller further executes the following processes:
starting to supply a braking voltage to the motor when the optical disc mounted on the turn table is rotated by the driving force of the motor and focusing servo control of the optical pickup is functional;

observing a variation of a widest pattern signal corresponding to a pulse width of a signal having the widest pattern among RF signals outputted from the optical pickup;

calculating a prediction time when the rotation of the optical pickup will be stopped with reference to the variation of the widest pattern signal;

continuing to supply the braking voltage to the motor until the prediction time; and

judging that the rotation of the optical disc has stopped, when the prediction time has passed.

5. The optical disc apparatus in accordance with claim 4, wherein

the motor controller judges that the rotation of the optical disc has stopped, after passing a predetermined margin time which is sufficient to stop the rotation of the optical disc through inertia from the prediction time.

6. The optical disc apparatus in accordance with claim 1, wherein

the motor controller further executes the following processes:

starting to supply a braking voltage to the motor when the optical disc mounted on the turn table is rotated by the driving force of the motor and focusing servo control of the optical pickup is functional;

observing a variation of a widest pattern signal corresponding to a pulse width of a signal having the widest pattern among RF signals outputted from the optical pickup;

stopping supplyance of the braking voltage to the motor when an inverse number of the widest pattern signal becomes equal to or smaller than a predetermined threshold value; and

judging that the rotation of the optical disc has stopped, after waiting a predetermined period sufficient to stop the rotation of the optical disc through inertia.

7. An optical disc apparatus comprising a motor for rotating

a turn table on which an optical disc is mounted, an optical pickup for irradiating a light beam to the optical disc and receiving reflected light from the optical disc for reading and/or writing data with respect to the optical disc, and a motor controller for controlling the rotation of the motor, wherein

the motor controller executes the following processes:

starting to supply a braking voltage to the motor when the optical disc mounted on the turn table is rotated by the driving force of the motor and focusing servo control of the optical pickup is functional;

observing a variation of a widest pattern signal corresponding to a pulse width of a signal having the widest pattern among RF signals outputted from the optical pickup;

calculating a prediction time when the rotation of the optical pickup will be stopped with reference to the variation of the widest pattern signal;

continuing to supply the braking voltage to the motor until the prediction time; and

judging that the rotation of the optical disc has stopped, when the prediction time has passed.

8. The optical disc apparatus in accordance with claim 7, wherein

the motor controller judges that the rotation of the optical disc has stopped, after passing a predetermined margin time which is sufficient to stop the rotation of the optical disc through inertia from

the prediction time.

9. An optical disc apparatus comprising a motor for rotating a turn table on which an optical disc is mounted, an optical pickup for irradiating a light beam to the optical disc and receiving reflected light from the optical disc for reading and/or writing data with respect to the optical disc, and a motor controller for controlling the rotation of the motor, wherein

the motor controller executes the following processes:

starting to supply a braking voltage to the motor when the optical disc mounted on the turn table is rotated by the driving force of the motor and focusing servo control of the optical pickup is functional;

observing a variation of a widest pattern signal corresponding to a pulse width of a signal having the widest pattern among RF signals outputted from the optical pickup;

stopping supplyance of the braking voltage to the motor when an inverse number of the widest pattern signal becomes equal to or smaller than a predetermined threshold value; and

judging that the rotation of the optical disc has stopped, after waiting a predetermined period sufficient to stop the rotation of the optical disc through inertia.